

R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1-7 and 9-20 under 35 U.S.C. §103(a) as being unpatentable over Cranford '441 in view of Phanse '028 has been obviated and should be withdrawn.

Cranford teaches an integrated adaptive cable equalizer using a continuous-time filter (Title). Phanse teaches a digitally controlled automatic gain control system for use in an analog front-end of a receiver (Title).

In contrast, claim 1 of the present invention provides an apparatus comprising a first circuit, a second circuit and a third circuit. The first circuit may be configured to filter an analog input signal in an analog domain in response to one or more control signals. The first circuit includes a digitally switched capacitor array configured to (i) sweep over code values and (ii) determine a certain value for a filter. The second circuit may be configured to convert the analog input signal to a first digital signal. The third circuit may be configured to generate a second digital signal and the one or more control signals in response to the first digital signal. The third circuit may also be configured to deliberately skew the filter tuning of the analog input signal in response to a signal to noise ratio of the first digital signal to partially compensate for frequency dependent effects associated

with a transmission medium. Claims 9 and 10 provide similar limitations.

Applicants' representative respectfully requests that the amendment to claims 1, 9 and 10 be entered in this after final amendment. The subject matter added to claims 1, 9 and 10 was present in claim 8. The amendments to claims 5, 12 and 14 were made to ensure the claims include proper antecedent basis. As such, no new issues are believed to be raised.

Cranford fails to teach a third circuit configured to deliberately skew an analog input signal to partially compensate for frequency dependent effects, as presently claimed. Cranford is also silent regarding such skewing in response to a signal to noise ratio of the first digital signal. Furthermore, Cranford fails to teach a digitally switched capacitor array configured to (i) sweep over code values and (ii) determine a certain value for a filter.

Phanse fails to cure the deficiencies of Cranford. As discussed in the Office Action, Phanse fails to teach a digitally switched capacitor array configured to (i) sweep over code values and (ii) determine a certain value for a filter (see Office Action, page 7, lines 1-7). The Office Action asserts that it would have been obvious to modify the combination of Cranford and Phanse to arrive at the presently claimed digitally switched capacitor array according to the teaching of English (see Office Action, page 7, lines 12-16). Applicants' representative disagrees.

In particular, the Office Action asserts that English teaches that it is old and notoriously well known in the art of

operating filter components to sweep over code values and determine a center value with a digitally switched capacitor array (see Office Action, page 9, lines 7-9). English provides no support for such an assertion. English merely teaches "[A] filter 40 [FIR] operates in known fashion to produce a preliminary subcarrier waveform of desired shape and center frequency" (see English, column 3, lines 44-47). English further teaches that **the filter 40 operates in known fashion with a coefficient register 44** holding a set of FIR coefficients calculated to establish the desirable shape and center frequency (see English, column 3, lines 47-50). English fails to teach that the filter 40 operates in a known fashion with a digitally switched capacitor array, as presently claimed. The cited references, alone or in combination, fail to teach or suggest the presently claimed invention. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claims 3-7, 11-14, 16-17 and 19-20 depend, directly or indirectly, from the independent claims, which are now believed to be allowable.

The rejection of claim 8 under 35 U.S.C. §103 as being unpatentable over Cranford in view of Phanse, in further view of English is respectfully traversed and should be withdrawn. In particular, English fails to teach or suggest the presently claimed first circuit comprising a current source, a second processor and a rectifier. English is silent on the presently claimed current source, second processor and rectifier.

The Office Action asserts it is old and well known in the art of operating filter components to sweep over code values and determine a center value with a digitally switched capacitor array, the rectifier and analog-to-digital converter (see Office Action, page 9, lines 7-9). As noted in connection with the arguments presented in claim 1, English merely teaches that filter 40 operates **in a known fashion with a coefficient register 44** holding a set of FIR coefficients to establish the desired shape and center frequency (see English, column 3, lines 44-47). English fails to teach that the filter 40 generates in a known fashion with a rectifier, a second processor, an analog-to-digital converter and a digitally switched capacitor array, as presently claimed. The cited references, alone or in combination, fail to teach or suggest the presently claimed invention. As such, the present claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

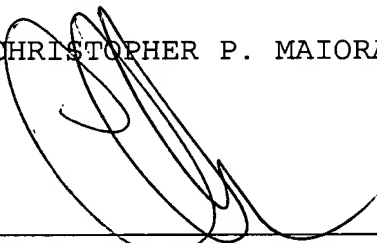
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative at 586-498-0670 should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge Deposit
Account No. 12-2252.

Respectfully submitted,

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